

Time-of-Flight Secondary Ion Mass Spectrometry (TOF-SIMS)



innovations
for high
performance
microelectronics

Technical Parameters

Time-of-flight mass spectrometer:
ION-TOF 5

Primary Beam:

Analysis Gun:

Liquid Metal Ion Gun (LMIG)

Bi₁, Bi₃ und Bi₃⁺⁺ Ions/Clusters

Sputter Gun: O und Cs

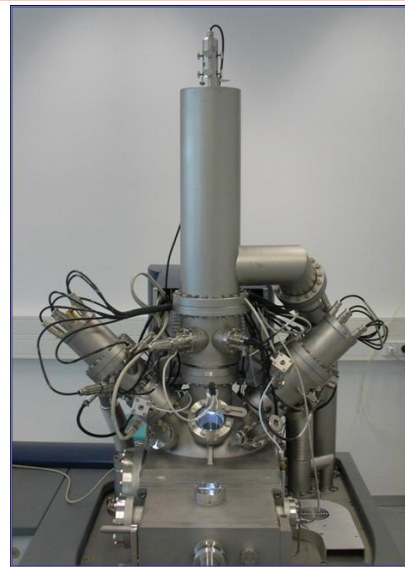
Signal Detected: Secondary Ions

Elements Detected: H – U

Lateral Resolution: 90 nm (Imaging)

Depth Resolution: 1 – 3 nm (Profiling)

Detection Limits: 10⁹ - 10¹⁰ at/cm² (sub-monolayer)



Application areas

- Surface microanalysis of organic and inorganic materials
- Ion imaging of surfaces
- Dopant and impurity depth profiling
- Composition and impurity measurements of thin films

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